

## **REMARKS**

### **1. Claim Amendments.**

Applicants note with appreciation the withdrawal of the prior rejections of Claims 58-63, 68, 69, and 75-79 under 35 USC 112, second paragraph and of Claims 75-79 under 35 USC 102(b) over the Bisht reference.

Claims 1 - 57 have been previously cancelled without prejudice.

Claim 58 has been amended to include the subject matter of Claims 59 and 61, and to be more chemically accurate in describing the esters as being derived from linear or branched acids. Claim 58 also has been amended to delete the recitation "having spermicidal and/or antiviral properties" in deference to the Examiner's comments regarding this being an inherent property of the sophorolipids. Claim 58 further has been amended to include a step e) treating sperm or viruses with an effective amount of the dispensable sophorolipid compound for spermicidal or virucidal purposes to further differentiate the invention from the Bisht article, which does not disclose or teach using sophorolipids as spermicidal or antiviral agents, but generally for immune response activation and modulation. Support for this amendment can be found in the Specification on page 3, line 23 through page 3, line 6, and page 6, line 17 through page 8, line 5. No new matter has been added.

Claim 59 has been canceled without prejudice.

Claim 60 has not been amended in this response.

Claim 61 has been canceled without prejudice.

Claim 62 has been amended to depend from Claim 60 for better claim flow. No new matter has been added.

Claim 63 has been amended to depend from Claim 62 for better claim flow. No new matter has been added.

Claims 64-67 have previously been canceled without prejudice.

Claim 68 has been amended to depend from Claim 63 for better claim flow. No new matter has been added.

Claim 69 has been amended to depend from Claim 63 for better claim flow. No new matter has been added.

Claims 70 – 74 have been previously canceled without prejudice.

Claim 75 has been amended to include the subject matter of 77, and to be more chemically accurate in describing the esters as being derived from linear or branched acids. Claim 75 also has been amended to delete the recitation “having spermicidal and/or antiviral properties” in deference to the Examiner’s comments regarding this being an inherent property of the sophorolipids. Claim 75 further has been amended to include a step e) treating sperm or viruses with an effective amount of the dispensable sophorolipid compound for spermicidal or virucidal purposes to further differentiate the invention from the Bisht article, which does not disclose or teach using sophorolipids as spermicidal or antiviral agents, but generally for immune response activation and modulation. Support for this amendment can be found in the Specification on page 3, line 23 through page 3, line 6, and page 6, line 17 through page 8, line 5. No new matter has been added.

Claim 76 has not been amended in this response.

Claim 77 has been canceled without prejudice.

Claim 78 has been amended to depend from Claim 76 for better claim flow. No new matter has been added.

Claim 79 has been amended to depend from Claim 78 for better claim flow. No new matter has been added.

## **2. Claims 75-79 Have Support in the Priority Application.**

The Examiner has initially refused to grant priority of Claims 75-79 on the priority application alleging that the prior filed application does not disclose the use of DMSO as an excipient. Applicants refers the Examiner to Table 1 and Table 2 of the priority provisional patent application in which DMSO is shown as the solvent for the four sophorolipid compounds (SL-1, SLET, SLHEX, and SLETDA) tested. See Provisional Patent Application No. 60/456,208 Table 1 and Table 2, and the provisional specification at page 9, line 11, through page 10, line 5 for a discussion of Table 1 and

Table 2. An excipient is a pharmacologically inactive substance used as a carrier for the active ingredients of a medication, the active ingredients being the sophorolipids. DMSO can function as an excipient as it can penetrate skin and other membranes without damaging them and can carry other compounds into a biological system. DMSO, therefore, acts as an excipient for the sophorolipid compounds when used as a spermicidal or anti-viral treatment for humans. As such, DMSO has clear support in the priority provisional patent application.

### **3. 35 USC 102 Rejections.**

Claims 58-63, 68, and 69 are rejected under 35 USC 102(b) as being anticipated by an article by Bisht et al., J. Org. Chem. 64, 780-789 (1999) (the Bisht reference). The two independent claims, Claims 58 and 75 have been clarified to include a step e) for treating sperm or viruses with an effective amount of the dispensable sophorolipid compound for spermicidal or virucidal purposes to further differentiate the invention from the Bisht article. The Bisht article does not disclose or teach using sophorolipids as spermicidal or antiviral agents, but only generally for immune response activation and modulation (immunomodulators). As the Bisht article does not disclose this feature of the invention, it cannot be used as an anticipatory reference, and Applicants request that the Examiner withdraw this ground for rejection.

### **4. 35 USC 103 Rejections.**

Claims 75-79 are rejected under 35 USC 103(a) over the Bisht reference in view of US Patent No. 5,981,497 to Maingault, the Kandil JACS publication, the Wilkinson Pharmacological publication, and the Chattaraj Percutaneous publication. Initially, as above, the two independent claims, Claims 58 and 75 have been clarified to include a step e) for treating sperm or viruses with an effective amount of the dispensable sophorolipid compound for spermicidal or virucidal purposes to further differentiate the invention from the Bisht article. None of Maingault '497, the Kandil JACS publication, the Wilkinson Pharmacological publication, and the Chattaraj Percutaneous publication disclose or teach the use of a sophorolipid as a spermicidal or antiviral agent, and

Applicant submits that there also is no teaching in any of the cited references to lead one of ordinary skill in the art to attempt to use the sophorolipids of the present invention as spermicidal or antiviral agents. Therefore, Applicants submit that the cited references cannot be used as obviating references, either alone or in combination, and Applicants request that the Examiner withdraw this ground for rejection.

### **CONCLUSION**

Applicant submits that the patent application is in condition for allowance and issuance. If the Examiner has any final concerns that can be addressed over the telephone, please have the examiner contact the below-signed patent lawyer of record to expedite the issuance of the patent.

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